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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jorg Peter

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EXAMINER

CHAO, ELMER M

ART UNIT

PAPER NUMBER

3737

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/517,637	<b>Applicant(s)</b> PETER, JORG	
	<b>Examiner</b> ELMER CHAO	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Acknowledgement is made of the amendment filed 1/7/2008.

### ***Response to Arguments***

2. Applicant's arguments filed 1/7/2008 have been fully considered but they are not persuasive.

Regarding Applicants' arguments with respect to claims 22 and 28, Applicants argue that "None of the described embodiments show the combination of two detectors, one for fluorescent markers, and one for radioactive markers...no disclosure of simultaneously using...". Examiner directs Applicants' attention to the col. 15, line 14 - col. 16, line 4 and col. 14, line 45 – col. 15, line 4. Rabito teaches several embodiments, including one that includes fluorescent markers. Furthermore, Rabito teaches that two or more markers with different emission energies can be used simultaneously (col. 15, lines 42-50). Furthermore, Rabito teach that one marker can be used for GFR and another marker can be used for perfusion measurements (col. 15, lines 50-55). This would then include using one fluorescent marker and one radioactive marker, especially since Rabito's specification teaches numerous instances of using both fluorescent and radioactive markers to measure renal function.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 22 and 28** are rejected under 35 U.S.C. 102(b) as being anticipated by Rabito et al. (U.S. 5,301,673). Rabito et al. teach an imaging method for simultaneously determining in vivo distributions of bioluminescent and/or fluorescent markers and radioactive markers at identical projection angles (col. 15, line 44-50), the distribution of the bioluminescent and/or fluorescent markers (col. 3, lines 55-58) being determined by separate detection of photons having a first average energy, which are emitted by the bioluminescent and/or fluorescent markers, by means of at least one first detector (col. 15, line 44 – col. 16, line 4, refer to multiple labels and multiple detectors) and the distribution of the radioactive markers being determined by simultaneous separate detection of photons having a second average energy, which are emitted by the radioactive markers (col. 3, lines 55-58), by means of at least one second detector (col. 15, line 44 – col. 16, line 4, refer to multiple labels and multiple detectors).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabito et al. in view of Bryan et al. (U.S. 6,232,107 B1). Rabito et al. teach the limitations as discussed above but fail to explicitly teach using green fluorescent proteins. However, in the field of using in-vivo markers, Bryan et al. teach using green fluorescent proteins (Para [0025]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Rabito et al. to include using fluorescent proteins in order follow the migration and colonization progresses of tumor cells (for motivation see Para [0025] second and third sentences).

7. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabito et al. in view of Turner (U.S. 2003/0101466 A1). Rabito et al. teach the limitations as discussed above but fail to explicitly teach detecting Indium-111 using SPECT. However, in the field of using radioactive markers, Turner teaches using SPECT to detect Indium-111 among other listed radioactive markers (Para [0027], first sentence, second to last sentence). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Rabito et al. to use SPECT imaging to detect Indium-111 in order to detect cancer cells (for motivation see abstract).

8. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabito et al. in view of Turner, further in view of Voirin et al. (U.S. 6,312,961 B1). Rabito et al. and Turner teach the limitations as discussed above but fail to explicitly teach the fluorescent markers being detected by a CCD camera. However, in the field of fluorescent imaging, Voirin et al. teach a CCD array to detect fluorescent emissions (col. 6, lines 10-39). Therefore, it would have been obvious to a person of ordinary skill in

the art at the time of the invention to modify Rabito et al. and Turner to use a CCD array to detect fluorescent emissions in order to achieve a large enough number of pixels (for motivation see col. 6, lines 24-29).

9. **Claims 23, 24, 29-34, and 36-41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabito et al. in view of Turner, in view of Voirin et al., further in view of Bassen et al. (U.S. 5,678,550).

Regarding **claims 23, 24, 29, and 30**, Rabito et al., Turner, and Voirin et al. teach the limitations as discussed above but fail to explicitly teach a layer reflecting and transmitting photons to the different detectors. However, in the field of medical imaging, Bassen et al. teach using a beamsplitter to transmit/reflect lights of different wavelengths (col. 5, lines 34-51). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Rabito et al., Turner, and Voirin et al. to include using a layer that splits photons of different energies in order to direct photons in different directions to their respective detectors (for motivation see col. 5, line 52 – col. 6, line 4).

Regarding **claims 31-34 and 36-41**, Rabito et al., Turner, and Voirin et al. teach the limitations as discussed above but fail to explicitly teach the different configurations of the SPECT and CCD cameras. However, Rabito et al. teaches the use of both fluorescent and radiation imaging (col. 3, lines 55-58) simultaneously (col. 15, line 44 – col. 16, line 4, refer to multiple labels and multiple detectors). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Rabito et al., Turner, and Voirin et al. to include different configurations of the SPECT

and CCD cameras in order to use both fluorescent and radiation imaging simultaneously (col. 15, line 44 – col. 16, line 4, refer to multiple labels and multiple detectors).

10. **Claim 35** is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabito et al. in view of Turner, in view of Voirin et al., in view of Bassen et al., further in view of Matsuzaki et al. (U.S. 2002/0042566 A1). Rabito et al., Turner, Voirin et al., and Bassen et al. teach the limitations as discussed above but fail to explicitly teach using a position sensor. However, in the field of medical imaging, Matsuzaki et al. teach using a position sensor (Para [0096]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Rabito et al., Turner, Voirin et al., and Bassen et al. to include a position sensor in order to track a subject (for motivation see Para [0096]).

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elmer Chao whose telephone number is (571)272-0674.

The examiner can normally be reached on 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian L Casler/  
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5/11/2008